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RESULTS OF INVESTIGATION OF SUN'S CONTINUOUS
SPECTRUM IN THE REGION 3100 - 6600 Å *APR 16 1965*

by
E. A. Makarova /

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RESULTS OF INVESTIGATIONS OF SUN'S CONTINUOUS
SPECTRUM IN THE REGION 3100 - 6600 Å*

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by E. A. Makarova

SUMMARY

The results are given of an investigation of Sun's continuous spectrum in the 3100 — 6600 Å region from the observations made at the high altitude station ($H \sim 3000$ m) of the Sternberg Astronomical Institute.

* * *

A photographic investigation of the continuous spectrum of the Sun was conducted at the State Astronomical Institute in the name of Sternberg (GAISH), at the altitude of ~ 3000 meters, using the method of comparison of Sun's spectrum with that of a standard lamp in absolute units. The spectrum of the Sun was photographed with normal slot openings which corresponded on the spectrograms to areas from 0.06 to 0.10 Å.

The work is the continuation of a previous study, carried out by the author in Kuchino in 1957 [1]; it has for object a further penetration into spectrum ultraviolet by utilizing high-mountain conditions, and to obtain, furthermore, a corroboration of the presence of a minimum in the distribution of energy in the Sun's spectrum in the 4700 — 4800 Å region, detected earlier by the author [1]. Both, the method and the results are described at further length in a paper currently printed in the "Trudy GAISH."

* REZUL'TATY ISSLEDOVANIYA NEPRERYVNOGO SPEKTRA SOLNTSA V OBASTI 3100—6600 Å

The results of the investigation are compiled in the table:

TABLE 1

PORTIONS OF THE CONTINUOUS SPECTRUM OF THE SUN AND
BRIGHTNESS AT THE CENTER OF THE DISK
expr. in erg/cm² sec in $\Delta\lambda=1$ cm

$\lambda, \text{\AA}$	$B_{\odot} \cdot 10^{-14}$	$\lambda, \text{\AA}$	$B_{\odot} \cdot 10^{-14}$	$\lambda, \text{\AA}$	$B_{\odot} \cdot 10^{-14}$
3111.16	1.40	4151.30	4.05	5256.40	4.48
3124.39	1.46	4185.25	4.51	5290.35	4.43
3149.06	1.42	4283.60	4.91	5299.35	4.56
3167.52	1.28	4316.38	4.90	5330.90	4.37
3189.10	1.40	4349.45	4.69	5417.60	4.07
3204.60	1.26	4364.95	4.81	5450.05	4.19
3233.42	1.27	4448.60	4.73	5491.35	4.06
3262.59	1.28	4493.10	4.60	5541.30	4.06
3294.38	1.31	4532.45	4.56	5604.45	3.96
3300.40	1.28	4543.45	4.63	5656.70	3.89
3325.80	1.35	4573.35	4.65	5695.60	3.76
3387.05	1.32	4627.85	4.75	5765.00	3.42
3400.45	1.31	4689.85	4.46	5847.65	3.42
3434.55	1.29	4747.00	4.50	5939.30	3.39
3539.25	1.20	4795.45	4.75	6006.80	3.29
3691.80	2.39	4879.25	4.55	6051.50	3.24
3755.65	2.62	4931.35	4.65	6250.50	3.05
3811.52	2.50	4963.30	4.76	6313.50	3.04
3901.30	3.20	5010.60	4.69	6356.70	3.06
3999.80	3.91	5055.10	4.87	6401.70	2.92
4012.95	4.16	5093.10	4.56	6447.20	3.02
4069.85	4.04	5130.95	4.32	6589.75	2.90
4117.13	4.01	5190.00	4.53	6659.40	2.85

In the first column of Table 1 we brought up the wavelength of the investigated portion, and in the second column— the measured brightness B_{\odot} in units erg/cm² sec sterad. in $\Delta\lambda=1$ Å at the center of the Sun. The effects of hydrogen line wings and of weak lines of other elements upon the level of continuous spectrum is taken into account. For the region $\lambda > 4000$, the results agree well with the mean data of [2].

*** THE END ***

REFERENCES

- [1].— E. A. MAKAROVA.— Astronomicheskiy Zhurnal, 34, 539, 1957.
 [2].— E. A. MAKAROVA.— Ibid, 41, 288, 1964.

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